

THE ROLE OF TRANSPORTATION IN
THE ECONOMIC DEVELOPMENT OF NIGERIA

by

MATTHEW OGUIKE

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Approved:


Major Professor

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PREFACE

Because of the lack of transportation and the resultant absence of the communication facilities, most of the African countries developed tribes and groups with many languages containing various dialects. Without transportation many Africans grew very limited in their knowledge of what other people were like: their food habits, their anxieties, and their aspirations, and in short in their economic development. Many socially rooted evils -- suspicion of the neighbors, distrust, and the like -- developed in every section because one group of people did not resemble the others physically or did not live as others did, economically.

However, when the transportation came, many changes -- political, social, and economical -- accompanied it. When in 1830, the Landers proved that the delta was the mouth of the Niger, a succession of British commercial expeditions began gradually to enter far into the interior through the Niger river waterway. That was how the economic role of the rivers came to be important. Different political orientation was brought in by transportation through the railways and rivers at the turn of the century, and with the railways' growth and road expansion traveling became an everyday affair. A great revolution, though imperceptible, came into the Nigerian society because of transportation. The Iboman became mixed with the Yoruba and the Fulani, and, when they got acquainted with one another and found out that irrespective of their outside features these were all brothers, they began to talk about a united country, and the Nigeria of today came to be.

In discussing the role of transportation in Nigeria's economy, little or no attention has been paid in this essay to the climate and its influences because it has practically no effect on the system. Topography has

not been mentioned either, because it has no major effect on the transportation layout except that here and there a ditch would be filled or a stream would be bridged. The whole report has considered the role of railway, roads, water and air transport in the economic growth of Nigeria, and has been developed according to period rather than to individual transport system in a specific chapter. Hence, the reader will see the role of, say, the railway in different chapters.

One of the interesting aspects of this study has been the discovery of the amount of money that the Nigerian government has spent on transport development -- about one third of the annual budget since 1954. Another interesting fact is that a tremendous change has occurred in the Nigerian society; people have become very eager to see things beyond their fathers' localities, and this spirit of search and inquiry has enabled many Nigerians to see well-being beyond their territorial boundaries, so that now Nigerians are found in almost every corner of the world -- not only to gain academic knowledge, but to see for themselves how other people live so as to deal more effectively with them.

INTRODUCTION

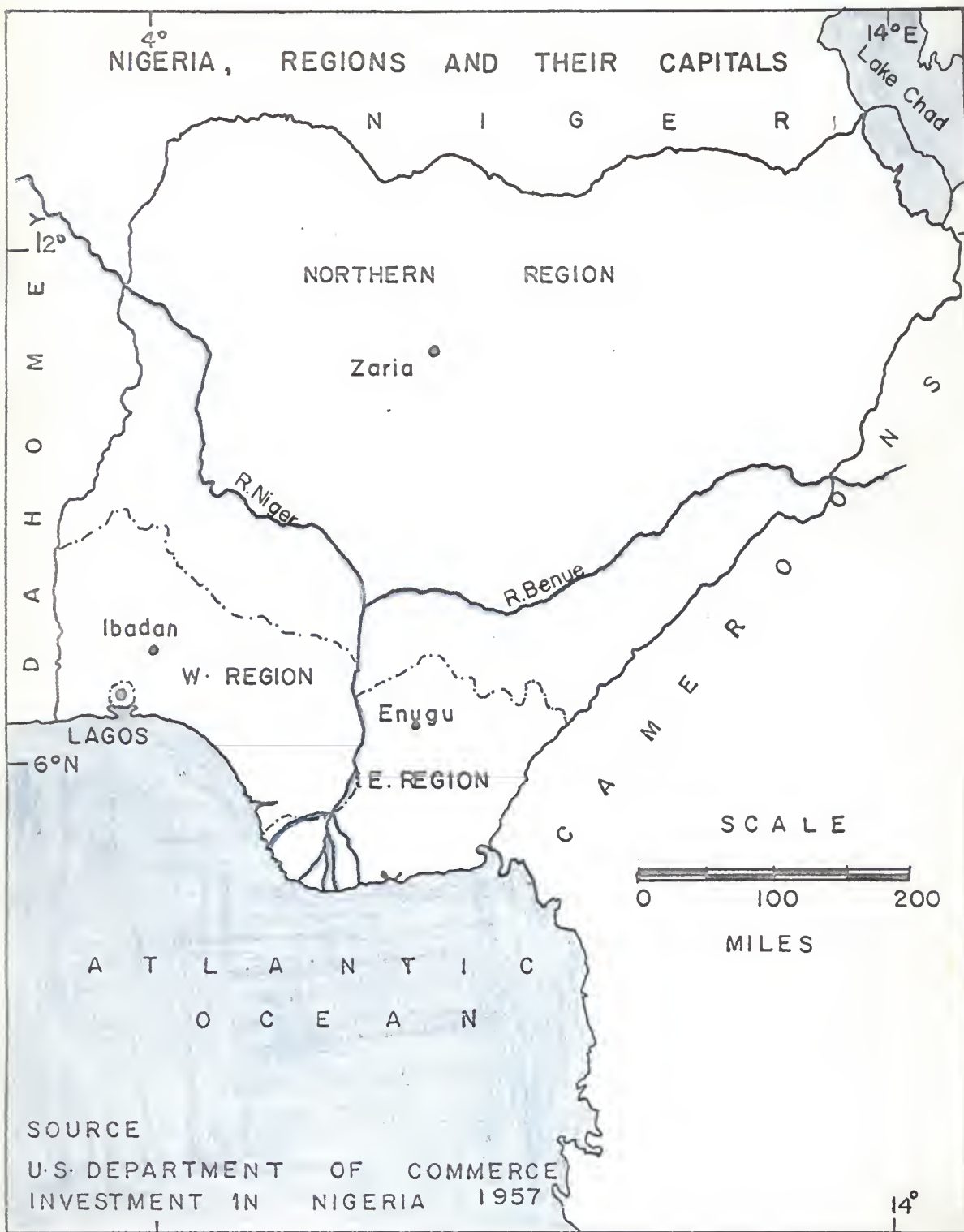
Lying on the west coast of Africa between $4\frac{1}{2}$ and $14\frac{1}{2}$ degrees north of the equator, Nigeria is bounded on the land by the Cameroons on the east, Niger on the north, and Dahomey on the west. On the south it is bounded by the Bights of Benin and Biafra.

In size, Nigeria is about equal to Pakistan, or nearly four times the size of the United Kingdom. Within its 374,250 square miles are 42,000,000 people, of whom 16,000 are other than Africans. It is the most populous of all the African countries and by far the largest unit of African racial origin in the world.

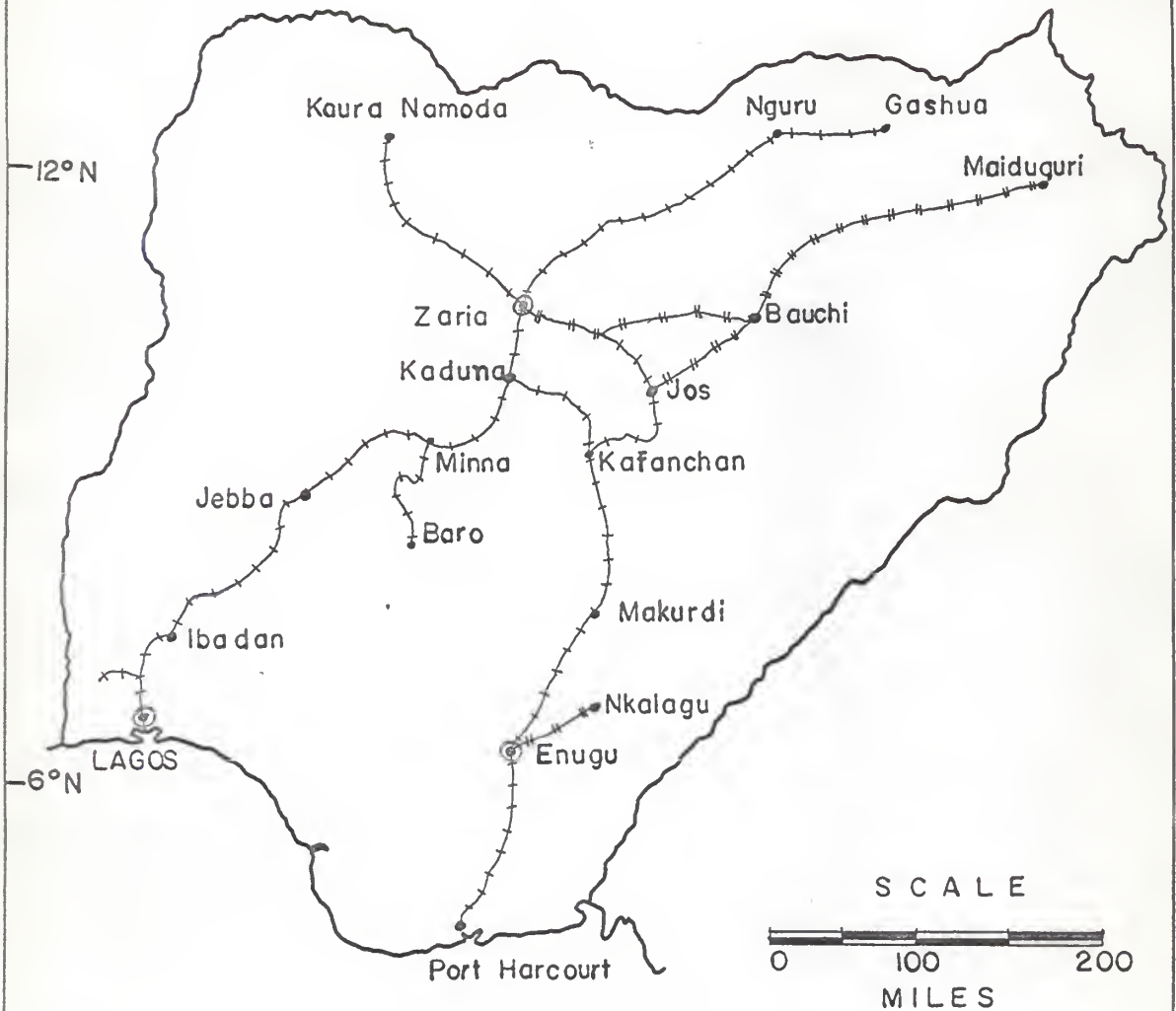
It has a varied climate, vegetation, and topography and extends for 700 miles from south to north and 600 from east to west. It is typical of west Africa, with humid heat, mangrove swamps along the coastal lowlands, and tall tropical forests in the south; upland savanna lands with hilly ranges lie in the north and in the Cameroons. The north is dry and more pleasant during the dry season. The name of Nigeria is derived from the Niger river and comprises many religious groups -- Christians, Moslems, and Animists. Christianity predominates in the south and the Moslem religion in the north. Most of the people raise food crops and cattle of domestic use.

Nigeria has a thriving export trade in cocoa, timber, palm oil and kernel, cotton, and rubber. It also has small-scale industries in saw mills, cigarette manufacturing, and brewing of beer, as well as soapmaking, groundnut-oil extraction, and textile mills in the north. Along with these are mineral resources in gold, coal, columbite, zircon, lead, and zinc.

NIGERIA, REGIONS AND THEIR CAPITALS



NIGERIA RAILWAY MAP



SOURCE:
ECONOMIC DEVELOPMENT
OF NIGERIA
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Nigeria is a democracy with the Federal House of Representatives modeled on the British House of Commons and the Senate modeled on the United States Senate. The government is stable and elections are based on adult suffrage and franchise. The country is divided into three regions for administrative convenience, and each region has autonomy in certain matters, but the federal government has an overriding power in foreign affairs, force, army, international trade, and maintenance of law and order. Nigeria is proud of her membership in the British Commonwealth of Nations.

Population increase is rather gradual, reflecting a fairly high rate of literacy on the part of Nigerians. This varies; in the north one out of every ten persons can read and write; in the west three out of every ten persons can read and write; and in the east four out of every ten persons can read and write. Nigeria has an average of 35% literacy as compared with Turkey's 30%, Nicaragua's 37%, Mexico's 46%, Colombia's 56%, and Ceylon's 53%.

As things stand now, Nigerians have great confidence in their country and in the future economic growth of their country.

TRANSPORTATION IN PRE-WAR II NIGERIA

If man and his needs were to be hand in hand, there would perhaps be no costs in attempts to overcome the friction of space. The disutility of distance is positive and the value expressed in overcoming it is interwoven into the economic fabric of man. This could be seen in von Thunen's theory of value of agricultural land use and the distance to the market. To bring products to the market, space must be overcome and this is achieved by means of transportation, and since transportation is never instantaneous or

effortless it remains a costly undertaking, which means it has economic implications. But for any country to develop, its natural resources must be tapped and this means overcoming space by means of transport systems.

Transportation, by providing the means of conquering space and its disutility is indispensable to the economic growth of any country. Within any country and its cities, transportation facilities make up the important parts of the land use, and the functional orientation and set-up, and as such they serve as nuclei, around which other functional differentiations are carried on. Perhaps transportation and its role in the economic development of any country is felt to its fullest extent in the urban area. In most Nigerian cities, not only is the extent of the hinterland of a transport point, and as a result the size and character of the city, largely a reflection of the transportation connections, but also the transportation facilities themselves in many cases make up the most essential single class of city life. A good example of this is the ports of Port Harcourt and Lagos with their rail, road and port facilities as compared with Kano and Enugu with only rail and road facilities.

Rail, road and water transport of both passenger and freight constitute an integral part of the economic life of any city or a growing country. Transportation provides the adequate means for moving the suburban-dwelling workers to and from their jobs in the city every day. It also necessitates spacious terminal facilities, and multiple tracks or parallel lines. Transportation provides main line services to the principal towns or regions of the country. As regards freight traffic, the transportation of any country should provide primarily the daily food supply of the vast city population. This calls for adequate unloading, transshipment and marketing facilities

around, but not close to the terminals. In Nigeria, the ports act as entrepot for goods from the regions of the country, or from abroad destined for the regions. Consignment of goods is sent from Lagos and Port Harcourt where there are sorting facilities which make the small consignment a part of a large consignment of goods for the same destination. This is true of London, Chicago, Paris, Toronto and Berlin.

Where there is no transportation system, such consignment of goods will not be sent and the area will be poor, because there is a definite connection between immobility and poverty, as transportation is an essential element of almost everything that man does to supply himself with the necessities of life.

Transportation has provided the means of overcoming the hindrances to movement, which through a greater part of Nigeria's history has shackled the use of her resources. Hence, its importance in her economic development cannot be stressed enough.

In Nigeria the terms transportation and economic development are so closely related that they are almost used synonymously. To talk about transportation without a good coverage of the economic implications would be an incomplete statement; they are so interrelated that one cannot be analyzed without the other. And a close study of the transportation in any country, including Nigeria, shows two relationships. First, Robert Murray Haig of Columbia University wrote that the most favored spots are those from which the richest resources can be tapped with the lowest transportation cost. "Transportation is a method of overcoming a friction of space."¹ Secondly, without transportation the fundamental differentiation of areas into the various specialized types of land uses, indeed the existence of cities, could

be impossible. Mayer and Kohn wrote: "It is the means of carrying people and goods to places where they will be more useful, for concentration of labor force and materials for manufacturing industries."²

These are two of other roles that transportation has played in Nigeria. It has been "a method of overcoming friction of space," particularly at the initial stages. Apart from this, it has been, and is still, "the means of carrying people and goods to places where they will be more useful." To appreciate these two accomplishments of transportation in Nigeria's economy fully, one has to understand the development of transportation in Nigeria during the colonial days and after the achievement of independence.

Railways in Nigeria as in other parts of west Africa, particularly under the British, came before the roads, and will be discussed first. The Nigerian Railway started from Lagos in 1898 as the Lagos government railway. Ibadan, the center of the cocoa-growing region, was reached in 1901, and the River Niger at Jebba was reached in 1909. The railway led through a country which was undeveloped in the south in addition to trackless wilderness in the north. With the exception of Kano, railheads were just villages. "They were built as acts of faith in the hope that traffic could later justify the cost. They were built by a poor government with borrowed money and they were therefore built cheaply. They have had to struggle with the problems resulting from cheap construction; with the disadvantages of the single track; with the curves that are too sharp and the rails too light to carry powerful engines; with bridges that are only intended for light loads and with gradients that have been known to make trains stop and run backwards."³

The whole railway system of Nigeria is 1,903 miles long, giving the country a railway density of 4.65 miles per thousand square miles. The system

is wholly 3'6" narrow gauge track except for Banchi light, which was 2'6" gauge (but which was removed in 1958). All the main lines are laid with 60-pound-per-yard track except the Western line between Lagos and Jebba, which is laid with 80-pound track; from Jebba to Kano it is laid with 60-pound track, although its traffic was carried all the way to Kano. The tracks have ballast stone beds. The branch lines have 55-pound track and the maximum run authorized axle-loads are $16\frac{1}{2}$ tons for the 80-pound railway and 13 tons for the 60-pound track. The railways were lubricated and still are by mechanical lubricators. Railway stations are generally ten miles apart, and small stations have crossing loops permitting the crossing of 33-car trains; larger stations have loops for the crossing of 55-car trains and over. Movement of trains is by the "Electric Train Staff," which is a system used on single track, and most of the stations are equipped with signals and points mechanically interlocked.

Apart from the railway system, Nigeria had other means of transport, such as roads and waterways. These had as much economic influence on the Nigerian way of life as the railways. Economically, the building of the roads was not worthwhile until somebody discovered how to move wheels along them. There were no horse-drawn carriages or bullock carts, and in the central and southern areas of Nigeria the tsetse fly saw to it that the animals could not thrive. The north had the camel and the donkey but still no wheels. River sand and mud were as hard to beat as the tsetse fly in the construction of roads. However, when the motor cars propelled by internal combustion engines and fitted with pneumatic tires became a practical proposition, the building of roads with a firm, smooth surface became a necessity. The first roads generally followed the old tracks. This explains why many

roads even now are badly aligned and graded. "The government and the owner of the struggling railways which ran at a loss viewed competition of motor transport with mixed feelings. Laws were made to stop them from taking traffic away from the railways. Road building was restricted to those areas and routes which linked economic and administrative regions with the railways and large towns were deliberately left without road links if they could communicate with one another by railways."⁴ From this, then, we could see that the main objective of the colonial power was twofold -- economic and political. Right from the start of the establishment of the Protectorate of Nigeria, "the two great needs of the protectorate were efficient administration embracing the whole country and the rapid communication between all the centers of administration and of trade."⁵ The first was easily achieved but the second was not and still is not entirely accomplished because, aside from the rivers, the narrow caravan paths were the only means of intercourse and the backs of men the sole method of transportation.

When the River Niger Navigation Company was founded, many daring explorers ventured into the Saharan Africa looking for the river. It was not until 1775 that a young Scottish doctor by the name of Mungo Park with Major Laing and M. Caillie had gone from the west coast up to Gambia and the Senegal river and had found the upper waters of the Niger at Timbuktu. From then on, many others followed. But it was in 1832 and 1841 that two ill-starred expeditions were organized and sent to explore the trade possibilities on the Niger. They returned to England with a loss of 60 per cent of the crews and a little profit. By now, the economic role of the Niger river was in the making. MacGregor Laird, the energetic Liverpool merchant and chief promotor of these enterprises, was not discouraged but organized a third and well-

equipped party of scientific and experienced men under the direction of Dr. William Baikie in 1854. This was the expedition that successfully explored the Lower Niger and the Benue. From 1857 to 1864, the Niger river was not only the main trade route from the ocean to Lokoja but also the main administrative channel.

In the colonial days "the river fleets with power crafts and barges had to concentrate their efforts on the short rainy season, then switch to the Niger between Lokoja and Jebba and then retreat to the lower reaches from Lokoja southwards. The series of operations which followed an annual rhythm had to be delicately handled by those in charge of river organizations. If they let the craft stay up the Benue a day too long, the vessels would be stuck on sand banks for ten months. If through caution or misinformation they withdrew the fleet too soon, much valuable merchandise would be left behind and could only be evacuated by land at much greater cost."⁶ This was one of the handicaps of the Niger as a means of transport.

Ports, like railways and roads, play a leading role in the economic development of any country that has a sea coast. It is the connecting point between the sea and the land. Their main function is the transportation of goods and people, from the ships to land and vice versa; and the growth of its traffic means life and prosperity, not only for the port, but also for the city and the hinterland. With the dynamic attraction of traffic, ports compete with one another. Good ports have certain physical factors for their outstanding importance, such as sufficient space, easy entrance, small tidal range and deep water open the year 'round. Nigerian ports at first did not have deep water.

Now deep waterways protected by breakwaters have been built at Port Harcourt, Apapa (Lagos), Burutu, and Warri as well as Sapele, and deep waterways are provided in the protected waters of rivers and lagoons. Discharge by surf boats onto an open beach placed limits on the weight and type of cargoes that could be imported as well as exports to be sent away from the ports. Special problems arose at the ports where the ships have to pass a shallow bar. These included Warri, Burutu, Sapele, Koko on the Niger Delta, and Eket near Calabar. In such conditions some of the ships had great trouble and difficulties loading and unloading. The navigation of the bar is often hazardous. At some places the captain has to sail his ship in past the hulks of others that failed to make it. Bars always tended to silt up and several of these ports might be closed by nature unless man could meet the cost of dredging.

In Nigeria, the role of ports as the main avenue between the outside trade and Nigeria's products was early recognized, and as such this challenge was not only successfully met but a lot of improvements took place. Ports like Lagos, connected by railway and roads to a prosperous hinterland, had suffered much from the delays in loading and unloading up to the Second World War. The blame was laid on the railway authorities on one hand and the ports' administration on the other. For example, the railway from Lagos to northern Nigeria and the combined ports of Lagos and Apapa have had to handle a tonnage of exports and imports which was without precedent since 1940. Since the railway could not take the imports quickly enough, congestion in the ports was bound to arise and it indeed arose to an alarming rate; ships were held up and consequently they could not dispose of their imports in time to be ready for the loading of the export products brought

down by the railways. In order to prevent delays and save money (because a delay in unloading of a ship could cost as high as \$15,000 a day to the shipping company) the Nigerian government and the shipping companies had to develop docking, loading, and unloading facilities at the railway terminals and road stations and ports. The speed at which the ships could work is a matter of concern and great anxiety. For example, in the colonial days it took ships one half as long again to make a trip from Lagos to Liverpool and back which meant that three ships were needed to do the work which was previously done by two. The cost of operating the extra ship was charged to the shipper in freight costs. This cost was transferred to a buyer in Nigeria, since he ultimately paid the cost in the price he paid for his imports. If, on the other hand, a ship could, by traveling faster and working cargo faster in the ports, cut in half the time needed to do the journey from Liverpool to Lagos and back it could do the work done previously by two ships. And this is the economics and reasoning that the Nigerian government adopted in 1950, but with an increased impetus since 1954.

TRANSPORTATION DURING THE POST-WAR DECADE

The foregoing account of transportation in Nigeria was the situation up to 1946. However, with the arrival of internal self-government in 1954, and with the mission and recommendations of the International Bank for Reconstruction and Development, many projects for improvement were launched. By March 1950, the railway main line stock included 77 modern coal burning steam engines, known locally as the river class type of 55 tons adhesive weight and capable of hauling 620 tons. They were introduced in 1948 and are now standard type for 60-pound per yard railway track and 42 more were to be

delivered in July 1954 and ten 750-horsepower diesel electric engines arrived early in 1955. By 1952-53, the railway's coal consumption was 342,517 tons carried on an average distance of 325 miles or a total of 116,318,025 ton-miles. Routine maintenance of the locomotive was carried out in 13 running sheds, but the mileage and general repairs were carried out in the Ebute Metta and Zaria workshops, as well as Enugu workshop in the eastern region. The rolling stock were of the highest standard and the newest passenger cars with first class and second class sleepers and buffet facilities in the third class were among the most comfortable then running in Africa. Passenger mileage traveled rose from 198 million in 1939, to 450 million in 1950. By 1954, freight stock consisted of 4,645 cars including covered, open, cattle and tank cars. Economically, the railway has some impact on Nigeria's well-being, in that more people were offered jobs in the railway and their standard of life rose considerably. However, 1955 was a far better year. As compared with 1939 when there were only 65 Nigerians in the senior service of the railway, in 1951 there were 259 of them.

Passenger services were very good but slow. "Limiteds" ran four times a week, providing long distance service from Lagos to Port Harcourt and Port Harcourt to Kano and Jos. These trains were comfortable, but very slow. For example, a "Limited" took 41 hours to travel the 700 miles between Lagos and Kano and the southbound trip from Kano to Port Harcourt, 708 miles, took 51 hours. Because of this situation, only 54% of the seats available were occupied in 1952 to 1953 period; the people preferred to go by the faster and better cushioned buses. This is still one of the great competitions that the Nigerian Railways have to face. And in case of a long distance travel, such as from Port Harcourt to Lagos, they had to face increasing rates in

competition. The volume of freight traffic reached post-war peak in 1946 to 1947 when 829,000 tons were carried. After declining for a few years, it rose during and after the war to 1.5 million tons in 1952 to 1953. Before the war, groundnuts made up almost one third of the total tonnage and continued to increase in volume, but other freight had grown faster and now peanuts accounted for about one fifth of the tonnage. The most striking increases were in foodstuffs including kola nuts, livestock and building material, in petroleum products and in imported hardware. The only major traffic item to decline in tonnage was cocoa, now carried by road almost exclusively. The average length of haul was increased. In 1946 to 1956, it was 333 miles per paying ton. This also showed a loss in traffic, particularly in the western region of Nigeria.

Road competition was very keen for both imports and exports via Apapa Wharf (Lagos), and for imports via Port Harcourt, despite the inadequacy of road facilities of those ports. Almost none existed before the war (1939-1945); the growth of this road traffic in recent years is striking: at Apapa Wharf, 8% of import tonnage was cleared by road in 1948, and 25% in 1952, and corresponding figures for exports carried by road were 6% and 14%, respectively. At Port Harcourt Wharf, 9% of import tonnage was cleared by road in 1949, and 27% in 1952. Since 1950, a tremendous increase has occurred in the traffic freight of the railway. Tonnage of imports has risen by 20%, the ton-mileage of exports has fallen by 7%, the railway ton-mileage by internal traffic has risen by 40% and the total railway ton-mileage has increased by 20%. Goods were divided into seven classes, for railway rate purposes. In each class, the longer the haul, the lower the cost. The ton-mile rate route for class I items which included local

foodstuffs was 30 cents for 150-mile haul, but only 15 cents for a 700-mile haul, and only 13 cents for a 1,000-mile haul. At the other end of the scale, represented by the seventh class item, which included bicycles and kola nuts, pay per ton-mile rate was 80¢, 55¢, and 50¢ for comparable haul. Special rates usually set by zones, applied to principal imports and exports, and to certain local commodities. Generally, the interpretation for this policy was that there was a favorable tariff rate for imports of cement and fertilizers traveling long distances and local foodstuffs, but an unfavorable scale of rates for exports, particularly those coming from areas where there was no competition from roads; as for example, palm oil. That was similar to the situation that arose in the United States when the big business men and the railways fixed prices for farm products, depending on location of the products and accessibility to the nearest railway line. But, unlike the situation in the United States, at that time the position in Nigeria was a fierce competition between the roads and the railways.

The financial situation of the railway in Nigeria before or during 1954 was this: separate railway accounts were set up in 1946. Since then, net income before payment of interests had aggregated to roughly \$60 million. On this amount, \$42 million was paid to the government as interest on the sum invested in construction and equipment of the rail, averaging a little less than 4% per year; \$3 million was applied to creation of a Reserve Fund, and \$15 million to the purchase of capital equipment. Throughout those years, no ample provision was made for renewal and depreciation. In 1952, the railway had operating receipts of \$32 million, and operating expenditure of \$18 million. Expenditures rose sharply during the coming four

years, as a result of higher average material cost; but the growing volume of traffic at increased rate had permitted the railway to show surpluses over the years 1952 to 1955, totaling \$15 million. Up to 1953, the annual revenue from peanuts, represented on the average 25% of total annual receipts, illustrating the extent to which the railway financial equilibrium was linked with the peanuts.

By 1955, however, Nigerian Railways took quite a turn from the past situation. It became a statutory corporation of self-supporting nature. The most impressive recommendation of the International Bank for Reconstruction and Development whose mission visited Nigeria in 1953, was that "revisions be made periodically in the traffic policy of the railways in the light of the developing economic situation. To accomplish this, the railways should be more closely in touch with the various sections of the Nigerian economy."⁷ For this reason the railway traffic in 1954 in peanuts was 550,000 tons including 50,000 from the Niger (a country north of Nigeria). The railway undertook to clear the backlog of peanut pyramids at Kano and other stations, and determined not to allow such delays in shipment of products to occur. Maximum tonnage of cotton in 1954 was 50,000 (seeds), and 30,000 lint, and that for other agricultural products including cocoa, palm oil and kernel, hides and skins, beans, was 700,000 tons. Non-agricultural products had 5% increase of over 40 million tons. On the imports side, petroleum products had an increase of 10%. The railway's chief concern by 1954 was how to meet these increased traffic demands, and at the same time to reduce the cost, and because of this, it adopted the policy of economical motive power and maximum use of heavy trains.

In the interest of efficiency and economical operation, the Nigeria railway turned to the dieselization of the trains, with the possible exception of Port Harcourt-Enugu Track (this section has plenty of coal). The economic advantages of diesel over steam traction were generally recognized. Dieselization of the railway would show an over-all savings of nearly 50% in expenditures for fuel, rates and water, and engine operation and maintenance. The principal reason for a delay in the over-all diesel traction, was prevailing concern over the coal mines. The introduction of diesel traction would, undoubtedly, affect the mines very seriously in the long run in less export markets and greatly increase domestic consumption which had not been developed. This was one of the ways the transport by diesel trains would positively, but adversely, affect the lives, economics and general conditions and families of the coal miners. In fact, when the possibility of dieselization of the trains was mentioned over the radio and published in the newspapers, there was much uproar, and coal miners and politicians alleged that it was the calculated maneuvers of the colonial government and the Nigerian Railway Corporation to starve Nigerians to death. But the Corporation argued that since the stock of steam engines has just been substantially increased, a gradual dieselization would not affect the railway's coal demand for about ten years.

While we realize that it is very difficult to divide transportation development in Nigeria in phases of distinct character, it is good to point out that by 1956 many changes had taken place in the railway, roads, ports and even air services in Nigeria. On April 1, 1955 a big history was made in the life of the Nigerian Railway. It became a Statutory Corporation autonomous in organization and dependent in its operations. Hitherto,

the railway as a government body was not liable to income tax assessment or the payment of interests on the money it borrowed from the government. But by 1955, it became a corporation and at the end of the year it paid \$3,000,000 in interest to the government and \$3,000,000 from 1950-1955 in income tax assessment to the government of Nigeria. This was a substantial boost in the Nigerian economy due to the fact that the railway is a means of transport. Now that the railway was a corporation, it stood on its own feet and has relieved the federal government of the tremendous burden of maintaining it and again, this was a very positive role in the economy, for the money with which the government would have maintained the railway since 1955 has been diverted to other worthwhile projects that will give a better economic balance. For example, the federal government has invested in the cement, textile and oil industries in the country and these enterprises in turn expanded and employed more people who supported themselves but would otherwise have been a social burden to the country. Because of railway transport, many people have obtained jobs and have improved their standard of living. The Railway Corporation has an operating staff of 1,510 or 6.5 men per engine, and in 1955 these men had received wages totaling \$1,000,000 per annum on the average. "With the diesel traction, however, no more than six men per engine would be required in two-man teams or a total of 690 employees. Expenditures for engines would be \$480,000, 20% employee higher than for steam because the average grades will be higher."⁸ This was a demonstration that the railway as a transportation system does not always bring favorable effects on Nigerian economy. However, many facets of the railway supplement were unfavorable

aspects of it. By 1955, there were running sheds with a maintenance staff of 29,000 receiving a total of \$3,160,000 in wages.

There were improvements in the road system also. The roads of Nigeria traversed a territory of no sharp contrasts in climate, soil and vegetation. The length of the road system in 1955 was 29,000 miles or 77 miles of road per 6,000 square miles which was a high road density in Africa. Table 1 shows the distribution of Nigeria's roads.

Table 1. Road mileage by type and region.*

Description	North	West	East	Total
Trunk A	3,496	672	710	5,207
Trunk B	4,232	1,038	536	6,070
Local	9,636	1,336	6,383	17,468
TOTAL	17,359	3,046	7,629	28,745

* Source: Economic Development of Nigeria, p. 490.

It is necessary to point out that as from 1958 Southern Cameroons left Nigeria and joined with French Cameroons both of which now form the Republic of the Cameroons. The above figure showed an increase in the use of roads in Nigeria especially after 1945.

"Whereas in 1939, only 1,465 vehicles (commercial, private cars including taxis, motorcycles, tractors and trailers) were newly registered, in the first quarter of 1953 there were 22,900 vehicles in existence. In the last four years, the number of commercial vehicles (those engaged in economic activities) has increased on the average of 15% annually while the

number of passenger cars has increased on the average of 30%; it was estimated that by 1960 the total number of vehicles in operation will be approximately 60,000."⁹

Federal government expenditure (capital expenses) over the years 1954 to 1955 was \$13,000,000 including \$3,000,000 for the purchase of material, development of workshops, additional staff quarters, research, supervision; \$7,000,000 were spent for reinforcement and replacement of bridges and accesses; another \$7,000,300 for new roads and \$8,500,000 for widening, straightening, and taming, and \$4,600,000 for major improvements to Lagos roads.

Thus far, while the Nigerian Railway maintained itself, Nigerian roads were directly maintained by the government. However, the government collected taxes and dues from the users of roads for their maintenance. Equally playing an economic role in Nigeria were the ports. There were two main types of ports in Nigeria, national and regional. The national ports are Lagos and Port Harcourt. They were maintained by the federal government. Before the World War II, Nigerian ports showed in a flash of outstanding role what they could do in enhancing the economy of the country. By 1948 export traffic had increased by approximately 70% while import traffic had trebled. After World War II, the increase continued and shipping was carried on mainly by Elder Dempster Lines Limited which operated between Lagos and Liverpool fortnightly. Shipping was also carried on by American, British and French companies, particularly the Cunard Lines and American and West African Conference lines. By their operations many people were given jobs and the government derived a lot of revenue from their docking at the ports.

Lagos and Port Harcourt, as national ports, played a very substantial role, not only in the national transport but in its economy. Lagos customs wharf is located on Lagos island, in the heart of the commercial district. Most of Nigeria's traffic passed through Lagos consisting of imports destined for Lagos, the west, and the north. Exports from the north, mainly peanuts and cotton lint, and cocoa from the west, and transshipment traffic has increased from 269,000 tons in 1948 to 350,000 in 1952. In fact, most of the exports are handled by the national ports and are from the north. Increase in traffic could be anticipated chiefly in imports of petroleum products, fertilizers, building materials and road equipment. The Lagos port's hinterland would be extended by the linking of Lagos with Benin by a new road just completed in 1954. With peanuts traffic distributed over the whole year, and road access improved, Apapa was able to handle 300 tons per linear foot.

By 1955, Lagos port underwent an improvement on a large scale, including the extension of Apapa Wharf at the cost of \$4,500,000. The wharf would have a storage facility for peanuts and peanut oil; production of peanut oil jumped to 50,000 tons per annum. Also, the Railway Corporation built a new marshalling yard to be operated by the Nigerian Ports Authority at the cost (including subsidiary installations) of \$450,000 and also provided a 300 to 400 horsepower diesel locomotive at a cost of \$500,000. These installations at the Apapa Wharf did not at first justify the investment but later on the peanuts and peanut oil industry increased three fold. More people were employed and trained and more farmers were engaged in the crop production. In addition, the cost of the oil went up, thus giving the farmers more money for their products and indirectly improved their economic stand. As to river

transport and traffic and its effects on Nigeria's economy, the Niger and Benue rivers still remained the dominating systems. They commanded more than three fifths of the main traffic in Nigeria and they also justified their existence as a means of enhancing the country's economy, particularly after the improvement of their water system and course. Nedeco, a Dutch water engineering company, in cooperation with American scientists, surveyed the Niger-Benue waterways. This increased the transport on the Niger. Here is a summary of the rates of transport by commodity in 1953:

Table 2. Freight rates in dollars per ton.*

Product	Rate (dollars per ton)
IMPORTS FROM EUROPE AND BRITAIN	
Cement	10
Salt	11
Iron and Steel	15 to 21
Sugar	13 to 21
Cotton goods	46
EXPORTS TO EUROPE AND BRITAIN	
Hardwood, logs, sawed timber	26
Skins	60
Hides	24
Palm oil and kernel	18
Peanuts	18
Cocoa	12.50
Palm oil in bulk	11.50

* Source: Economic Development of Nigeria, p. 514.

The rates were charged per ton freight. The government was prepared to, and actually did, spend much capital to see that traffic was rapid and trade moved fast. In 1955, the federal government earmarked the following

amounts of money for the ports and waterways in the country as shown in Table 3.

Table 3. Expenditures for improving Nigerian ports in 1954.*

Location and improvement	Amount (dollars)
<u>LAGOS</u>	
Completion of Apapa Wharf extension	1,800,000
Customs wharf	600,000
Harbor moles control of erosion	180,000
Railway sidings and mechanization	2,400,000
TOTAL	4,980,000
<u>PORT HARCOURT</u>	
	8,000,000
Survey of Koko	80,000
Other ports	80,000
Dredging and survey of delta bars	1,000,000
Niger-Benue survey and improvements	1,300,000
Other inland waterways improvement	400,000
Lighthouses, etc.	400,000
Dockyards and workshops	1,600,000
Dredgers and other fleet	1,900,000
Offices and staff quarters	1,600,000
TOTAL	16,360,000

* Source: Economic Development of Nigeria, p. 540.

Even in addition to the above expenditures for port improvement in 1953, the federal government spent more money for the ports in 1955-'56 fiscal year. Improvements in ports were recognized as a means of enhancing Nigeria's chances in world trade and competition. The Nigerian Ports Authority, for example, allocated \$1,500,000 for purchase of mechanized equipments including fork lifts, trolleys, trailers and motor cranes and also enlarged

a causeway from 16 feet to 20 feet including necessary surfacing costing £75,000. Many improvements based on the economic importance of the river and seaports had been undertaken and completed by 1954. Nedeco, in co-operation with American scientists and technical know-how, did a wonderful work in surveying the Niger-Benue. "The survey of the Niger and the Benue by Nedeco will take several years and will be first comprehensive surveys of these difficult rivers, but the undertaking will justify this very important economic investment. The estimate of \$1,400,000 expenditure on studies and preliminary work will not be a waste for the histories of the Mississippi and the Rhine and the Danube, long used as means of communication and transportation, show that today's results are the fruits of a long series of surveys and partial improvement."¹⁰ Nigerians recognized this, even before the International Bank came on a mission to Nigeria in 1953, and that is why the Nigerian federal government made every effort to see that ports and rivers were kept up to date as means of transport.

On the whole, the Nigerian Ports Authority estimated and also spent \$20,000,000 during the 1953-1956 period to show that river and seaports were of vital import in the growing economy of the country. The Authority realized that Nigeria could maintain her connection with the outside trade through her ports. In 1958 alone the recurrent expenditure on ports and river developments rose from \$3,000,000 to \$5,000,000. By 1954, the Nigerian Ports Authority spent \$2,000,000 on ports' facilities which it operated, and received a like amount in charges.

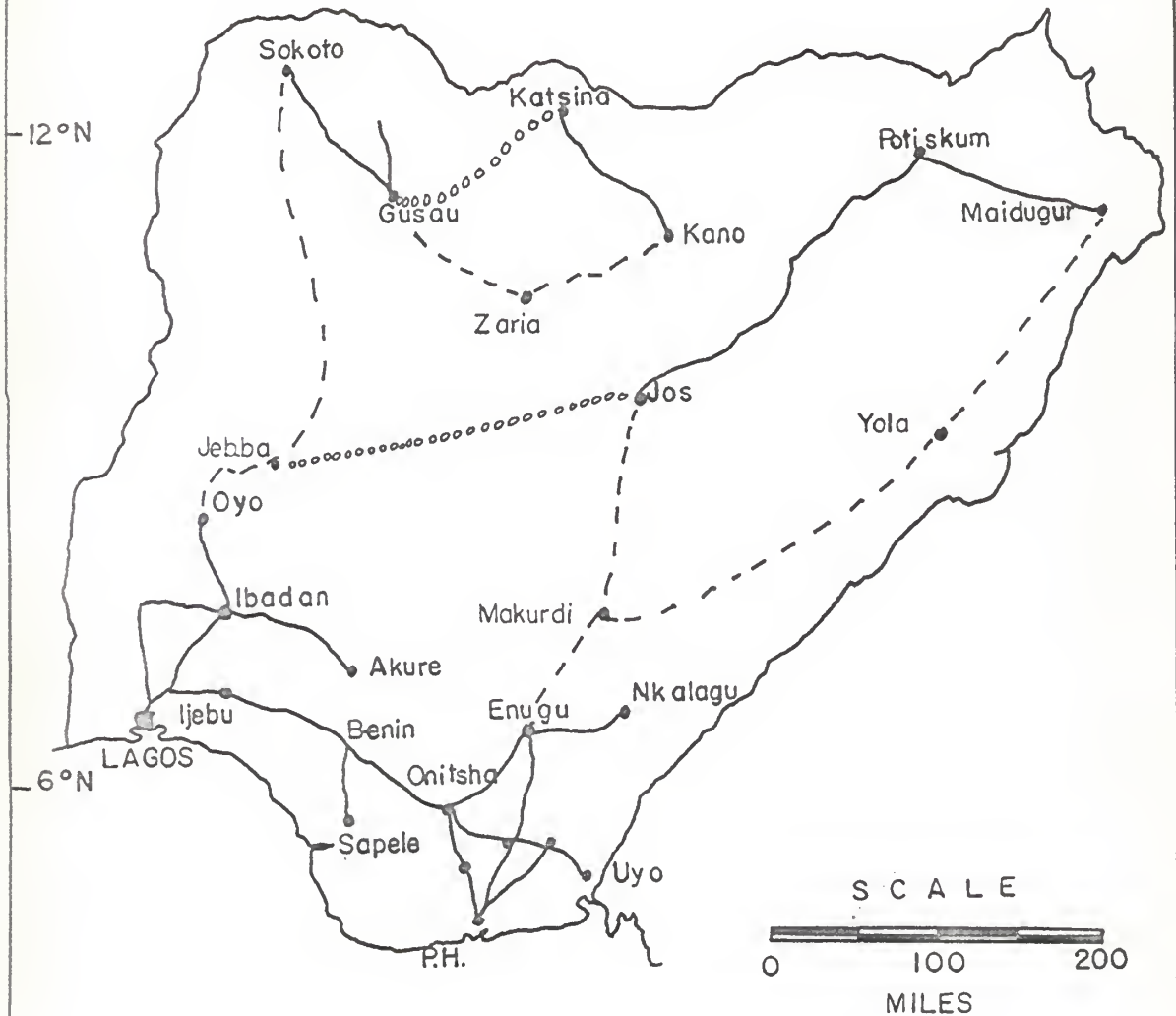
The air transport being new and most modern in Nigeria, and more expensive and therefore more money-bringing to the government, was also much

improved. From 1946 to 1953 the air services in Nigeria were operated by WAAC (West African Airways Corporation), a statutory corporation established to provide air transport between the then British West Africa. Now the Nigerian Airway Corporation is an independent air transport body. The Department of Civil Aviation is responsible for the management of the air fields and ground installations and for the enforcement of aeronautical regulations. Air traffic grew rapidly from 16,000 take-offs and landings at all Nigerian air fields, to 27,652 in 1952 and passenger movements totaled 170,432 including 65,246 in transit at Kano International Airport. A total of 3,346 tons of freight were shipped and landed at Kano and Lagos airports. These are two Grade I (international airports) and have tarmac main runways 9,610 by 200 feet and 7,600 by 180 feet, respectively. They are suitable for use by the heaviest air crafts now in use. Since 1953, much improvement has been effected in the Nigeria air transport system. Runway lighting was much expanded by the expenditure of \$3,000,000 for improvement and extension of the air craft ground telecommunication system, and of communication between ground stations. Top priority was given to this project. Capital expenditures for navigational aids and telecommunications rose steadily from \$119,400 in 1953 to \$300,000 in 1954. Such a steep rise in the operation of the telecommunication alone, emphasizes the impact the air transport had on Nigeria's economy. The position of Nigerian Airways Corporation was very good, but before this time it was nearly paralyzed by weak administration, poor maintenance and lack of staff qualified to operate it. However, 1954 was better, for by now runways had been enlarged to enable the Bristol planes of the WAAC fleet to use all commercial airfields. By now also, the number

of Nigerians employed in the airways had trebled, and the pay of the workers rose considerably. Many young men were sent to Britain for training as pilots, and engineers, in all the phases of the corporation's operations. Telecommunication equipments absorbed much of the allocated expenditures, and in 1955 alone, \$1,000,000 was set aside for the purchase of radios. Crash, fire and rescue equipment cost an exceptional sum of \$92,000. Because of the nature of the air transport and the size of the aeroplanes, the buildings and maintenance were of high cost. In general, however, terminal buildings were adequate for Lagos airport.

Kano was by 1956 wholly inadequate to handle the tremendous increase in international transit traffic. Nevertheless, the economic importance to Kano and Nigeria as a whole of such transit were worth the investment made in providing the facilities. A new terminal was therefore being built at Kano at an estimated cost of \$1,500,000. This terminal was to cater for 400 passengers at a time, and in Lagos a capital expenditure of \$300,000 for terminal was spent in 1958 and another \$310,000 was used for a new staff quarters for the Department of Civil Aviation, largely for radio operators. Nigeria has never been having it so profitable as it may seem. When she was a member of the West African Airways Corporation, she sustained much loss and in 1954, her share of the deficits resulting from WAAC operations reached \$1,500,000, and from 1954 to 1956, the Nigerians' share of the deficits totaled \$3,000,000. These losses were attributed to mechanical trouble, weather and negligence on the part of the new and inadequate facilities at the terminals and runways. Such operations at a heavy loss sapped Nigeria's economic roots and reduced the patronage of the airways. As a consequence, many workers were laid off; among the worse hit were unskilled

NIGERIA ROAD TRANSPORT



KEY:

- Existing A Roads
- " B "
- Heavy arteries built after 1960

SOURCE:

ECONOMIC DEVELOPMENT
OF NIGERIA Page 504:

14°E

laborers and porters. That was an economic disaster to the men and their families, which was in turn transmitted to the nation as a whole.

TRANSPORTATION SINCE INDEPENDENCE

Structural changes have taken place in Nigeria's economy in the last five years. This is because transportation in Nigeria is planned for principal and subordinate services it is called upon to perform. It is called upon to provide the means of travel, as well as the means of exploit the natural resources, spread education and communications, and bring about an effective administrative control. At present, the few local industries are centered in the cities like Lagos, Port Harcourt and Kano, but sooner or later transportation will be called upon to decentralize them and locate them in other towns and cities.

The role of transportation in the economy of a developing nation could be visualized more in the distribution of food and the supply of the kinds of food that would assure an adequate diet. The part transportation can play in attaining this objective is to provide access to available lands (as railways have done in Bornu and Nkalagu), to help communicate agricultural techniques by means of experimental stations and farms, to make possible the delivery of seeds and fertilizers, to assemble and move the increased products to consumers and to provide the incentive to produce for marketing and export. If we think of transportation as a means of overcoming the friction of space, we must consider it as a means of overcoming hunger, because the ultimate objective of an effective transportation system is a higher standard of living and not simply a higher standard of moving. For these reasons railway, road and water traffic have raised the standard of

living, although their rates have increased. Railway freights have almost trebled, passenger traffic has doubled and the advent of motor transport represented a major technological change which, though still in progress, has already profoundly affected the transport and distribution systems of the country. Nevertheless, the increase in tarred road mileage has been insufficient to accommodate the tremendous increase in motor and bicycle traffic. Much in Nigeria's attitudes which might have curbed economic growth has been dispersed by transportation which has enabled young people to leave their immediate localities and travel out to the towns and cities where opportunities beckon to them for a higher standard of living. Various statistical series and national income estimates showed that Nigerian per capita income has increased in real terms at an annual rate of two per cent more than in the post-war years, while the capital formation has run at a level of approximately ten per cent of the gross national product. Part of the capital formation has taken the form of an expansion of the "plant" of the Nigerians' economy -- improved highways, new railway locomotives and stock, school buildings and hospitals as well as lorries, automobiles and buses. However, the role of transportation in Nigeria's economy is an integrated one; for example, there is an interrelationship between transportation and the building up of government services in agriculture, forestry, animal husbandry, industrial assistance, land survey, geological survey and hydrology, and the improvement of telecommunication, power supply, public health and education, for all these undertakings contribute towards a favorable economic balance or an irritating economic lag. A mission of the International Bank for Reconstruction and Development strongly emphasized it when it wrote that little would be gained by expanding agricultural production

unless there are improvements in the roads, the railways and the ports carried out simultaneously; on the other hand, there is no purpose in expanding and increasing these facilities beyond the point at which they would not likely be much utilized. Improved inland navigation and eventual development of hydroelectric power will depend upon the intensified water surveys and these improvements will also markedly affect the speed of agricultural development. No idea or statement would perhaps be more effective in bringing out the inter-dependence of transportation and Nigeria's economy.

Because Nigeria was divided into three regions for administrative purposes, the regional governments have developed certain aspects of the economy more than others depending on climate, soil, topography (if all it has any effect) and technical know-how. In the north, transportation, particularly by rail, has altered the picture of the former economic set-up. Before the federal government took over the maintenance of Trunk A roads, and before the extension of the railway to Bornu, the north was a wilderness in that it was bordering on the barren Sahara Desert. Many people with money and initiative from the south found it very hard in trying to go to the north. Even when they finally ventured into the region, they were regarded as "strangers". But with these tremendous strides in transportation systems, education, agriculture and veterinary services and projects improved 100% since 1960 over its former state. In the north, there has been a doubling of the activities of agricultural and veterinary services, and the recurrent expenditures rose from \$300,000 in 1960 to \$7,000,000 in 1962, due to the presence of the railways which is ready to ship cattle and

donkeys to Port Harcourt by the Eastern railway system or peanuts by the Western railway line, as well as cotton and dried meat to Lagos. At the same time the north spent \$9,000,000 in capital expenditure partly to buy cement and other building materials which obviously came from the south through the railway to the north. In 1960-1962, the Peanut Marketing Board spent \$1,500,000 on fertilizer transportation, which sum was a large amount in the economic status of the north, considering that it was spent on one item alone. Transportation facilities have enabled the government in the peanut production, and the government has spent \$1,600,000 for irrigation of the farms, strongly relying on the transport facilities, and believing that the investment is worth the economic return of a well-sized dividend. This made the north prosper and helped the people to raise their standard of living. Milk products and dairy farming have expanded and in 1960 to 1961 the government spent \$2,700,000 and \$500,000, respectively, for fattening centers and dairy farms because the government was sure that the products would go to market and would bring profit to the farmer and the government. With transportation, the north has come out of economic stagnation and Bornu area has awakened from long economic slumber.

In the west region, cocoa is the main cash crop. The regional government has built many Grade B roads and has encouraged or subsidized the building of local roads. Through these roads, agricultural officers reached the farmers in the country to whom they brought modern techniques in farming, and inspected their crops for better economic production and profit. The western government was sure to sell its cocoa because of the good transport facilities -- roads or rail to Lagos port. In 1956, the cocoa price was \$420 a ton, but in 1960 with the construction of Lagos to Ijebu-Ode road

thus passing through the heart of cocoa growing and producing region of Ibadan, the price of cocoa rose to \$480 a ton. More rubber (latex) and oil have been produced, and the price has risen because of accessibility by road to the producing areas and many companies that were competing for cocoa seeds. Now the farmer was not afraid of his crops being rotten because he either sold to the highest bidder (under government supervision) or the government would buy from him.

In the east the palm oil, cement, coal and petroleum were the main economic resources. Of all the regions, the east is the most diversified economically and had the longest mileage of local roads which served the region's economy very efficiently. By means of good canoe and boat services, the swamp rice in the east has been increased from 30,000 tons to 50,000 tons and more people have been employed in the raising of swamp rice. The railway in conjunction with roads was responsible for the shipment of cement from Nkalagu to Enugu from where it was sent to all the parts of the nation by rail, road and water. More people have been able to build good homes at a cheaper cost because of local cement, and have thus saved much money for other economic activities. More people have also been employed by the cement industry because of Nkalagu's easy access by a brand new railway extension and a new road from Enugu. Whereas Nkalagu was regarded as a bush in 1950, it was now regarded as a growing city with many economic activities going on -- such as cement industry, yam growing and rice production, all of which could easily be shipped to any part of Nigeria by road, rail or water. In all the regions, there was much impetus in the importation and use of agricultural machinery because the sales of the products and the profits made from them would justify the economic investment.

Now, petroleum oil (crude) was sent by pipe, but principally by petroleum tankers and trucks to Port Harcourt and Lagos because of good roads. From the coastal region of eastern Nigeria where the oil was being produced, over 2,000 miles of good roads have been built or improved to connect the areas with the ports of Port Harcourt and Lagos. Some of the roads are tarred. The railways are not less engaged in the transportation of oil, for at least every day while standing on a railway platform at Aba or Port Harcourt, one would see a very long chain of tanks carrying petroleum from the interior to the coast; one of the accelerators of oil exploration was the building of roads to handle the heavy traffic. Oil exploration has given many jobs and opportunities for advancement to many young Nigerians who have in turn contributed towards the growth of the country's economy by paying taxes and disposing of their income in many different ways. International Bank stressed the need for adequate transportation systems in Nigeria's economic growth when it wrote, "improved transport facilities will have an immediate beneficial effect on Nigeria's economy and are essential for its further development.... The objective should be a countrywide system, adequate the year round to handle the traffic at reasonable cost. We have given first attention to the provision of facilities which are now urgently needed to round out the Nigerian transportation."¹¹ To demonstrate its concern over the provision of adequate transport system in Nigeria's growth, the Bank strongly recommended a huge sum of \$150,000,000 to be spent on transportation alone from 1960 to 1962.

How far have Nigeria's natural resources responded to so much money devoted to transport? Well, the country's international trade presented a good picture showing that transport systems were worthwhile investments.

The exports were a reasonably diversified group of products due to fairly good transport systems by rail, road or water, through which they were brought in time for the long-run markets which seem well assured. The balance of payments have for a number of years shown a very substantial surplus, especially since 1960, both overall and with the dollar areas, and Nigeria has acquired very considerable sterling balances. The burden of foreign indebtedness is light; in fact, Nigeria was by 1960 already a net creditor. Nigeria exported over \$320,000,000 worth of products annually, for the years 1958 to 1960. Although this was not a great volume of export for a country of 40 million people, it nevertheless established Nigeria as an exporter of some importance. For example, its exports from 1960 to 1962 were about as equal as those of Turkey; they considerably exceeded those of Uruguay and were 50 per cent higher than the exports of Portugal. From the north came freight trains with peanuts and peanut oil, cotton, hides and skins; from the west came trains full of cocoa beans and palm oil or a lorry with rubber and timber; from the east came trains with coal (for other west African country), oil for the Port Harcourt oil tanks from where it is pumped into ships bound for Britain and from the east also came lorries with cement, oil and other products for the Lagos and Port Harcourt ports. Most of the minerals exported were principally produced and sold by the mining companies which had better transport operating vehicles and which, in turn, had acquired a higher economic status because they had more money. A considerable proportion of the timber exports originated in the plywood factory of the United Africa Company which, together with some other companies, was also a major exporter of hides, skins, and rubber because of their efficient transport service. One interesting

influence of transportation on Nigeria's economy was in connection with rubber, timber and cotton. These commodities were produced in Benin province and western Nigeria and the northern region, respectively. Much cotton was being grown and exported and this has raised to a substantial level the economy of the north. The same applies to the west, the timber and rubber region. In 1960, the Lagos-Ibadan-Benin road was widened and completely tarred; within a year the production of latex jumped to all time high and timber shipment from Benin province to Lagos doubled. Now almost every two hours one might see a mighty timber truck hauling a timber nine feet in diameter from the interior into Lagos port ready for shipment overseas. This also was true of timber production in Ijebu-Ode province. In 1953, timber export from Ijebu to Lagos or any coastal port was only worth \$1,450,000 but in 1960 and with the completion of the famous Lagos-Ijebu road, the timber exports jumped to \$1,945,000. These were regarded as minor products, but this growth in minor products had made the recent pattern of exports rather more diversified, bringing with it a diversified economy, a desirable tendency because it makes the country less vulnerable to shifts in particular markets. Nigeria's export trade has always been on the rise since 1960.

The speed with which foreign goods were distributed was amazing. One no longer had to wait for weeks and months for his orders. Things were delivered right away, and by so doing transportation has brought about a greater growth in the economy and the distribution of men and goods to the places where they were more useful and of more economic asset. The railways had even done more because they could carry at one time what many lorries and buses could carry in many trips. The following are railway freight tonnages as of 1960:

Table 4. Railway freight in millions of ton-miles (1956-1960).*

Description	: 1956	: 1957	: 1958	: 1959	: 1960	: cost/ton
Exports						
Peanuts	400	385	385	385	385	\$.75
Cotton	32	37	42	47	52	.31
Hides and skins	13	14	14	15	16	.75
Palm oil	350	352	356	390	405	1.25
Cocoa	380	385	390	392	398	.37
Tin and Columbite	13	14	14	15	16	1.25
Other minerals	13	14	15	15	16	1.25
Imports						
Petroleum	77	84	93	102	112	.30
Cement	160	168	174	183	192	.40
Fertilizers	161	163	165	170	175	.32
Kerosene	160	168	174	183	192	.37
Aviation fuel	160	168	174	183	192	.37
Internal traffic	-	-	-	-	-	-
Kola nuts	247	284	326	375	431	1.00
Yams	347	384	326	375	431	.20
Coal	190	196	202	209	217	.50
Building materials	20	23	27	31	36	.4
TOTAL	2,000	2,100	2,220	2,400	2,850	

* Source: Economic Development of Nigeria, p. 465.

By 1960, a greater degree of distribution of foreign goods was noticed in Nigeria. In the villages, lorries, cars and buses had full use of the roads and the lonely highways and local roads in the countryside. But in the cities, transportation had been a hindrance to the economy. Much more important has been the physical limitations on the Nigerian economy imposed by the bottle-necked, inadequate transportation facilities in the cities.

Transportation from 1960 to the present day was considered a top priority item in Nigeria's economy and was treated as such; whether this was rail, road or water it caused the spending of much money but more growth in

material well-being. No longer was the railway confronted with insurmountable difficulties, and equipments were replaced and modernized. Net operating deficits were no longer much encountered, and transportation delays were rare; the peanut pyramids at Kano were dismantled and brought down to Lagos. The government was very much alive to the necessity for improvement in railway facilities and as such the progress had been made such that by 1960 the railways had largely caught up with traffic demands. Since 1960, the continued progress of the railway operations was reflected in financial returns which showed a continued increase in both gross and net operating surpluses. Because of the great part played by the railway in Nigeria's economy, much money was invested in it. The major bottle-neck in the railway services and shortage of the motive power were overtaken, and by 1960 was witnessed the arrival of 46 new steam locomotives and ten mainline diesel-electric locomotives. The latter were used exclusively between Zaria and Kano and between Zaria and Kaura-Namoda in the northern region where water was scarce during the dry season. The total number of passengers carried in the year ending March 31, 1960 amounted to 6,309,546 while the freight figure for the same period reached an all time high of 2,653,000 tons. Table 5 shows the passenger fare of the railway of 1960 schedule.

Transportation has brought many people out from the villages into the cities. An effect of transportation on Nigeria's economy has been the mobility of people. Before widespread transport systems were inaugurated, many Nigerians were domiciled in rural areas but temporarily employed in the traditional agriculture. But because they have been to school and finished their course, and because of available transportation, young Nigerians went into the cities for better jobs and prosperity.

Table 5. Schedule of railway transport fares (1960) from Lagos to twelve points.

Station	Fare (\$)	Distance (miles)	Approximate duration of journey by Express (hours)
Ibadan	8	120	5
Jebba	21	303	13.5
Minna	30	462	20
Kadunna Jct.	34	561	24
Zaria	38	613	27
Kano	44	700	29
Nguru	54	843	38.5
Kafanchan	42	672	30
Jos	48	735	25
Makurdi	54	842	39.5
Enugu	60	979	46
Port Harcourt	70	1,130	54

* Source: Handbook of Commerce and Industry in Nigeria, p. 76.

Transportation has simply wrought wonders in Nigeria, particularly since 1960. The shipment of agricultural products which were hitherto delayed for months because of bad weather, poor facilities and inadequate capacity to meet seasonal peaks of demand, had been partially solved. Many communities that were isolated for long periods each year, and as such suffered heavy economic and social burdens, have been brought fairly within the orbit of transport, but a lot has yet to be done to solve the problem, for still there are areas of glut and famine existing even though within a mile from them there may be areas of prosperity; but because of lack of transportation they were cut off from the surrounding life. Transportation has brought down the cost of food and products; products that were domestically available but were imported from foreign sources thousands of miles away because transport over much of the shorter distances was not possible. The

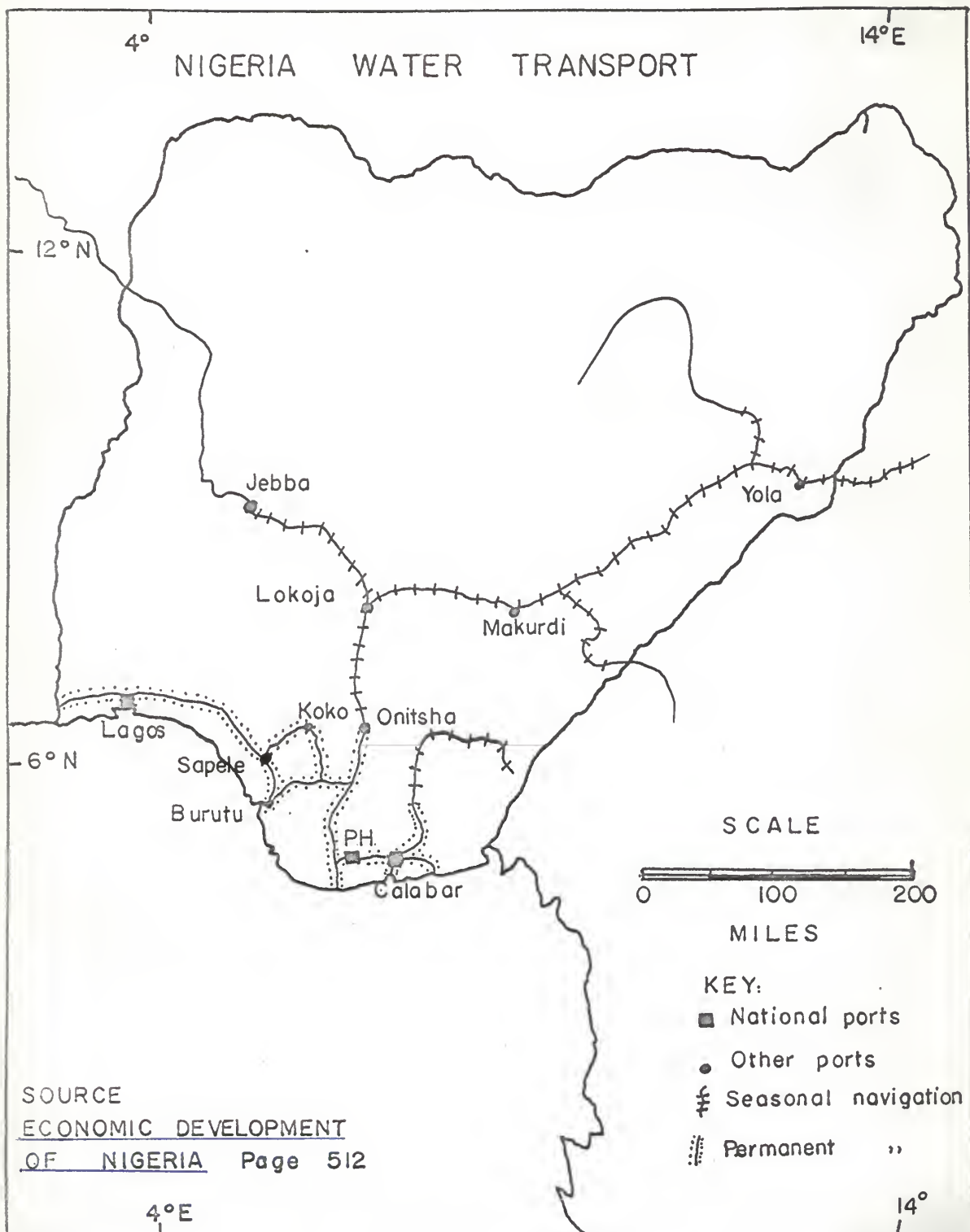
importance that the Nigerian government attached to transportation was reflected in the fact that over one third of the annual budget was devoted to transportation in improvement of old systems, in modernizing existing ones or in building new ones. Nigeria's transportation has a link with the economy proportional to its development; so it is with any other country. In the United States, for example, over a number of years every dollar of gross national product (in 1947 prices) has meant the movement of some four ton-miles of inter-city freight. This applies to other countries in different levels of development. In France, for example, there was 136 km. of improved road for each 100 square kilometers of area as compared with only two in Paraguay. Railway freight in Canada totaled more than 7,100 tons per capita but only 71 tons in Iran, while railway passenger travel in Holland is seventeen times what it was in Colombia. These comparisons could be applied to Nigeria's economy. There is more freight and passenger traffic today than ever before moving between Kano and Lagos, and between Onitsha and Port Harcourt, because of good transport by rail in the former and a good road service in the latter.

The governments of Nigeria, federal and regional, showed their earnestness in the priority given to transportation from the following transport budgets according to economic program. In each government allocation to transport was the highest budget item and in many cases this item was triple that of any other in the Federal government budget. "Highways and bridges had \$100,000,000 and this section of the development programme included provision for the improvement of the Lagos-Apapa approach roads; tarring and widening Trunk A roads, strengthening of bridges, the construction of new roads and bridges outside Lagos and the completion of projects in the former

programme. The total expenditure incurred by March 31st, 1960 was \$33,000,000."¹² Ports were regarded as a mainstay in Nigeria's international trade; hence, \$30,000,000 was budgeted for them; of this amount \$27,000,000 was provided for extending and deepening Port Harcourt wharves and for building a mole at the mouth of Escravos river to provide a deep water channel for ocean-going vessels to the delta ports, etc. An amount of \$3,000,000 was also provided for the Nigeria Ports Authority's programme for port improvements, crafts replacement and the provision of a reclamation vessel, a training establishment and staff quarters. Total expenditure of \$10,000,000 has been incurred by March 31, 1960. Railways: Almost \$60,000,000 was budgeted for a loan to the railway in 1960; \$30,000,000 of this sum was derived from a loan from the International Bank. The main item in the program was the extension of railway to Bornu Province at a total estimated cost of \$27,000,000.

In the northern region, \$25,000,000 was set aside for roads and by 1960 "1,430 miles of new roads have been constructed or existing roads reconstructed to bring them up to the standard necessary to meet the increasing heavy traffic. It is planned to spend about \$18,500,000 on roads and bridges in the next two years."¹³

In the eastern region a sum of \$15,000,000 was set aside primarily for roads because "the entire road system of the region is to be modernized, widening and tarring of existing roads and the construction of new bridges and improvements to the existing ones are being undertaken."¹⁴ The same tune of road improvement or construction was being heard in the western region of Nigeria where "priority is to be given to the completion of the bituminous surfacing of the remaining trunk roads to the widening and



strengthening of roads carrying heavy traffic and to the construction of bridges, the most important being the bridge over the Benin river at Sapele."¹⁵ The above quotations would show the reader the importance attached to transportation in Nigeria and it was expected that with the improvement of the transportation system the economy will grow stronger as stated by Reader's Digest columnist David Reed: "Nigeria's economic growth is expected to reach an even faster pace under the newly begun six year development plan which calls for government spending of nearly two billion dollars and it is hoped private investment of another 1.5 billion dollars. The biggest single project is a massive dam to be built on the Niger river in the northern region to provide power for new industries and water for irrigation,"¹⁶ as well as a brand new one-mile-long and six-lane bridge across the Niger from Onitsha to Asaba for which the federal parliament in 1959 approved \$15,000,000 and which is expected to be opened in 1964.

To further show how transportation is highly considered in Nigeria's economic growth it might be worth while to note that on December 10, 1962 the World Bank in addition to "an earlier loan of \$28,000,000...for railway development made in 1958 has made another loan of \$13,500,000 to the Nigerian Ports Authority to extend and improve the port of Lagos."¹⁷

FUTURE IMPROVEMENTS PROPOSED

Upon the foregoing role played in the past by transport in Nigeria's economy, and upon a very substantial improvement made in the system as of 1960 as compared with the situation by 1945, there still is a lot of room for more improvements. One of the improvements in the Railway Corporation operations would be the dieselization of the tracks starting from the north.

This is based on the experience and calculations of other African countries and it will save over 50 per cent on operation costs, according to Table 6.

Table 6. Comparison of costs of steam and diesel traction.*

Capital Expenditure	Steam (\$)	Diesel (\$)
Locomotive stock, recurrent expenditure, depreciation and interest	20,000,000	15,000,000
(a) Depreciation	610,000	89,000
(b) Interest on Capital	318,000	240,000
Sub-total	928,000	329,000
Fuel	2,900,000	1,187,000
Water	280,000	15,000
Operating staff	765,000	440,000
Maintenance staff	2,500,000	1,150,000
Maintenance of machinery	175,000	100,000
Maintenance of locomotive (service)	34,000	-
Major spare parts	260,000	100,000
Sub-total	6,914,000	2,992,000
TOTAL	7,842,000	3,321,000

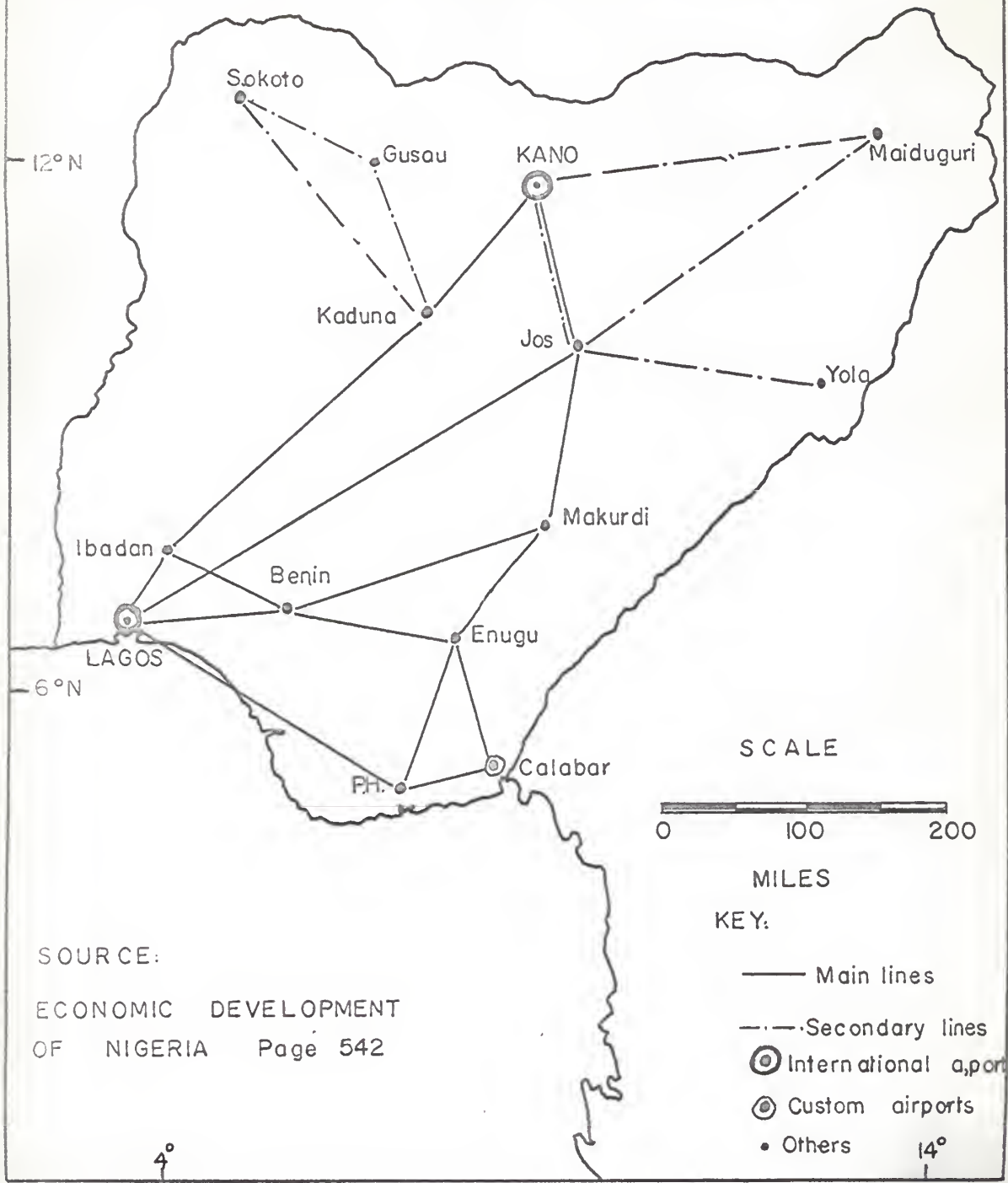
* Source: Economic Development of Nigeria, p. 488.

About twenty 750-horsepower diesel engines should be added to the ten 750-horsepower in operation by 1956, and as for the Port Harcourt-Enugu section, electrification is recommended so that the coal production at Enugu would not be badly affected. Freight cars of the size of 30 tons would be needed and about 750 of them would be added to the present stock. As for the railway track, the main lines could be relaid with 80-lb. yard track, that is from Lagos to Maiduguri and from Port Harcourt to Kaura Namoda through Kaduna in the north.

Nigerian road system was very poor by 1945, but improvements have been made in all phases. However, it would be good if more roads are covered with hard surface so as to accommodate heavy-trail-trucks for long distance traffic. Emphasis on the road program should have been on the adaptation of Trunk A roads to denser and heavier traffic and this would mean widening, straightening and tarring roads and reinforcing and replacing pre-war bridges designed for an eight-ton load only. Further improvements in the roads of Nigeria might be on the line number of arteries for heavy-weight traffic aggregating at least 1,800 miles and limited to the hinterland of the ports. In addition there should be an east-west connection and all major roads should be two-lane bituminous surface connected with bridges, where need be to carry 12-ton or units (for trailer truck traffic). Tarring should be mechanized and to my judgment maintenance also should be mechanized. A very good Trunk A road should connect Enugu with Yola so as to provide a permanent link between upper Benue and the east. More good roads should be built connecting Lagos and Port Harcourt with the hinterland as this is one of the most effective ways of adequately distributing the resources of the country. If a four-lane highway is constructed between Lagos and Ikeja airport it will ease the congestion that is cropping up on this important route.

Nigerian ports are receiving adequate attention, but the inland waterways department should take over the survey of small rivers for traffic purposes and for economic benefits to the areas through which they flow. The staff should be increased so as to carry on an effective job. In order to find entrance and outlet through the delta, it would be wise to have maintenance draught and a complete installation of beacons on the Niger safety's

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sake. The airways need only good runways and reliable operation schedule. Improved transport facilities will have an immediately beneficial effect (as they have already had) on the Nigerian economy, and are essential for its further development. The future objective of transport development in Nigeria will be a countrywide system ready the year 'round to cope with the traffic and ever growing economy of the country at a reasonable cost, as is the case in the United States and other developed countries. It would very much benefit Nigeria if facilities that are urgently needed are provided, and in the future others may be constructed to parallel the existing ones.

The contribution of transportation to the future economic development of Nigeria is bright, and if the development of transportation continues at its present rate, the country will be prosperous because many foreign companies will be ready to invest in the country and thereby contribute towards the development of the country and her resources.

With adequate transportation system, investment from overseas will be attracted because these companies could reach any part of the country by means of the good transport facilities.

CONCLUSION

To a greater extent than is usually realized, benefits from transportation technology make more of an impact on the development of a country than providing for the mere movement of goods from place to place. They depend on speed, flexibility and cost of the transportation systems. Hence, the qualities of transport service as well as costs should be stressed in the application of transportation technology. This may be accompanied in the

development by the dynamic force inherent in the improved accessibility of resources, the varied opportunities for people, the broadening of their horizons, and the mere ecstasy that comes with increased mobility. All these would be an important stimulant to higher aspirations and a factor in attainment of better standards of living.

Different transportation technology contributes in different ways to these overall dynamic aspects. For example, the railroad contributes to carrying heavy commodities, motor vehicles contribute to fast and easy distribution, while the boats and ships carry breakable goods from foreign countries. Transportation technology can have significant influence on the geographic distribution of people and industries and its absence may help keep sectors of a country in isolated towns and villages. Examples of this could be drawn from many African, South American, and Southeast Asian countries before World War II. On the other hand, transportation, no matter how limited, has acted as an incentive to migration from rural to urban areas, thus distributing the people for less crowded and better living. In fact, in many cases the implementation of an effective land tenure largely depends on transportation.

In Nigeria, the complete modern rail, highway, water and air transport technology have the potential of tapping far more of her resources than before World War II. It is quite true that effectiveness of transportation depends on parallel development of markets, industrial operations and other economic activities; nevertheless, transportation would give the initiative to these aspects of the development to get underway. Hence, they are all interwoven. An effective transportation system is a requirement for extensive economic growth. As a result, transportation has taken a huge share of the technical program for Nigeria.

In order to make the most effective use of transportation technology, Nigeria must look at the ways in which transportation can contribute to the realization of national goals, instead of looking at it too narrowly; otherwise we shall fail to make the maximum use of it as a part of strategy of development. This effectiveness in use of transportation technology may not be found in the field of transportation alone, but in others, including new sources of energy, modern approaches to processing and preserving food, distribution of energy through wires and pipelines, and perhaps, the possibility of substituting communication for transportation. These may minimize transport expenditure, while at the same time serving important purposes. To crown all these, there must be adequate financial, organizational and administrative innovations to thrust transportation forward.

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FOOTNOTES

¹ Quoted by Richard U. Ratcliff, "The Dynamics...of Urban Activities," Readings in Urban Geography, 1960, p. 302.

² Harold M. Mayer and Clyde F. Kohn, "Transportation", Readings in Urban Geography, 1960, p. 325.

³ F. J. Pedler, Economic Geography of West Africa, 1956, p. 113.

⁴ Ibid., p. 116.

⁵ Norman D. Harris, Intervention and Colonization in Africa, 1914, p. 150.

⁶ Pedler, op. cit., p. 118.

⁷ International Bank for Reconstruction and Development, Economic Development of Nigeria, 1955, p. 470.

⁸ Ibid., p. 486.

⁹ Ibid., p. 490.

¹⁰ Ibid., p. 538.

¹¹ Ibid., p. 59.

¹² Federal Ministry of Commerce and Industry. Handbook of Commerce and Industry in Nigeria, 1960, p. 159.

¹³ Ibid., p. 162.

¹⁴ Ibid., p. 165.

¹⁵ Ibid., p. 167.

¹⁶ David Reed, "Nigeria Black Africa's Brightest Hope," Reader's Digest, March 1963.

¹⁷ "World Bank to Aid Lagos Port Expansion," Africa Report, 1963, 8:25.

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THE ROLE OF TRANSPORTATION IN
THE ECONOMIC DEVELOPMENT OF NIGERIA

by

MATTHEW OGUIKE

B. A., Xavier University, 1962

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

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Department of Geology and Geography

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Manhattan, Kansas

1963

The main purpose of this report, as the title suggests, is to find out how much transportation has helped in the economic growth of Nigeria, in particular whether transportation has conquered the "friction of space" in Nigeria and thereby carried people and goods to places where they would be most useful, either in the concentration of labor force or in the development of manufacturing industries.

In connection with this, the history of transport development in Nigeria is divided into the pre-World War II period, the 1946 to 1956 period, and after independence period. In each case the role of government in the development of efficient transportation system is considered and evaluated in terms of money spent and what is accomplished in transportation during a particular period. Principal transportation systems -- railways, roads, ports (river and sea), and air -- are discussed in detail. Movement of goods not carried on the rail, road, water, or air systems is considered, such as transportation of oil by pipelines and the transmission of electric power through wire, but they are not dealt with in detail.

Many interesting conclusions can be reached as a result of the study of this subject. Nigerian railways were the first to develop, followed by roads. The aim in the establishing of the railway by the colonial government was to exercise an effective administrative control and to tap the available economic resources of the nation. Before 1939 and up to 1945 there was no clear-cut transportation policy. Satisfaction derived from transportation was little in comparison with investment in it; expenditures were thinly spread without making any headway; poor design and wrong improvements ate deep into transport budgets and there were no material results to

reflect much money spent in the transport systems; from 1946 to 1956, the idea of a good transportation system had started to have impact on the Nigerian government.

By 1958 to 1960, most of the evils were eliminated or greatly minimized. Hauling of agricultural products to the consuming centers was hastened. Investment in transport by the government put agricultural products to work benefiting producers and helped to feed industrial workers. Transport systems made new resources available - peanuts in the north; cement, oil, yams in the east; and cocoa and palm oil in the west. Transportation transformed a country of isolated, dormant groups and tribes and inaccessible areas into a lively and active country ready to exchange products, ideas, and culture within its boundaries and with the outside world. Transportation greatly reduced or curbed most of the deep-rooted social evils of underdevelopment in Nigeria. These claims could be verified by the very fact that the governments of Nigeria spent at least one third of their 1960 to 1962 budget on transportation, and with the proposed improvements, the future of transportation in economic development of Nigeria is bright.